



## DEPARTMENT OF ENERGY

### Ammonia Combustion Technology Group Meeting

**AGENCY:** National Energy Technology Laboratory, Office of Fossil Energy and Carbon Management, Department of Energy.

**ACTION:** Notice of public meeting.

**SUMMARY:** The National Energy Technology Laboratory (NETL) will host public meetings of the Ammonia Combustion Technology Group via WebEx approximately every (2) months. The purpose of the public meetings is to address challenges associated with ammonia combustion systems in power generation and industrial applications.

**DATES:** Public meetings will begin on Tuesday, May 2, 2022 and be held on the first Tuesday of the month, approximately every (2) months thereafter. The specific date and time will be shared prior to each meeting via the NETL events page (<https://netl.doe.gov/events>).

**ADDRESSES:** The public meetings will be held from 1-3 pm EST, via WebEx and hosted by NETL.

**FOR FURTHER INFORMATION CONTACT:** For further information regarding the public meeting, please contact Clinton Bedick at NETL by telephone at (412) 386-5886, by email at [clinton.bedick@netl.doe.gov](mailto:clinton.bedick@netl.doe.gov), or by postal mail addressed to National Energy Technology Laboratory, 626 Cochran's Mill Road, P.O. Box 10940, Pittsburgh, PA 15236-0940. Please direct all media inquiries to the NETL Public Affairs Officer at (304) 285-0228.

### SUPPLEMENTARY INFORMATION:

#### Instructions and Information on the Public Meeting

The public meetings will be held via WebEx. The specific date and time of each meeting will be shared approximately 1 month in advance via the NETL events page (<https://netl.doe.gov/events>).

Interested parties may RSVP, to confirm their participation and receive login instructions, by emailing *clinton.bedick@netl.doe.gov*.

The objective of the Ammonia Combustion Technology Group is to promote a technical understanding, among all, on the subject of ammonia combustion for power and industry. This technical understanding shall be achieved through the sharing of information or viewpoints from individual participants to reduce risk and address challenges associated with developing the technology.

Ammonia has been proposed as a hydrogen carrier and carbon-free fuel in combustion applications, offering potential advantages over pure hydrogen in terms of storage, transport, and energy density. A 2019 report by the International Energy Agency (IEA) showed that it was cheaper to deliver hydrogen as ammonia by pipeline for distances below 3500 km, including distribution and reconversion. When eliminating the distribution and reconversion step, transport and storage of ammonia was cheaper overall compared to hydrogen, demonstrating the impetus for its direct utilization in combustion applications. A number of the world's largest gas turbine engine manufacturers have publicly expressed interest and/or have active projects involving ammonia combustion technologies, however as of today none offer a commercial product capable of operating on ammonia or ammonia-mix fuels. This is largely due to a number of technical challenges which must be overcome, including the low flammability of ammonia and a propensity for high nitrogen oxide (NO<sub>x</sub>) emissions. Specific research challenges include chemical kinetics uncertainties, limited experimental validation data, combustor design and optimization, and scaling to practical flows and geometries, among others.

The format of the public meetings will facilitate equal opportunity for discussion among all participants; all participants will be welcome to speak. Following a detailed presentation by one volunteer participant regarding lessons learned from his or her area of research, other participants will be provided the opportunity to briefly share lessons learned from their own research. Public

meetings are expected to take place every other month with a different volunteer presenting at each public meeting. Public meeting minutes will be published for those who are unable to attend.

The public meetings are considered “open-to-the-public.” The purpose of the public meetings has been examined during the planning stages, and NETL management has made specific determinations that affect attendance. All information presented at the public meetings must meet criteria for public sharing or be published and available in the public domain. Participants should not communicate information that is considered official use only, proprietary, sensitive, restricted or protected in any way. Foreign nationals, who may be present, have not been approved for access to Department of Energy information and technologies.

### **Signing Authority**

This document of the Department of Energy was signed on March 31, 2023, by Brian Anderson, Ph.D., Director, National Energy Technology Laboratory, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on April 4, 2023.

**Treena V. Garrett,**  
*Federal Register Liaison Officer,*  
*U.S. Department of Energy.*